NOAA CONDUCTS RESEARCH MISSION OF UNDERWATER HABITATS OF THE U.S. VIRGIN ISLANDS AND PUERTO RICO

A PARTNERSHIP BETWEEN THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, THE TERRITORIAL AND COMMONWEALTH GOVERNMENTS OF THE U.S. VIRGIN ISLANDS AND PUERTO RICO, AND THE NATIONAL PARK SERVICE

The National Oceanic and Atmospheric Administration's (NOAA) Center for Coastal Monitoring and Assessment (CCMA) Biogeography Team will be conducting the third year of an ongoing scientific research mission on board the NOAA Ship NANCY FOSTER from March 21 to April 2, 2006. This collaborative mission with the National Park Service (NPS), and the governments of the U.S. Virgin Islands and Puerto Rico will explore and characterize seafloor habitats down to 1000 meters to facilitate more informed natural resource management. Priority areas for 2006 include the deep water portion of the Buck Island Reef National Monuments, the Escollo Grappler seamount to the southeast of Puerto Rico, and the La Parguera region along the southwestern coast of Puerto Rico.

Scientists will explore the type and extent of habitats in selected portions of the project areas using multibeam sonar and underwater video cameras. During the mission, scientists will collect high-resolution bathymetry; multibeam backscatter; and complementary video data that provides information about the seafloor. The NANCY FOSTER's hull-mounted Kongsberg Simrad EM 1002 multibeam echosounder will collect bathymetric depth information and backscatter imagery in depths from 15m to 1000m. A Seaeye *Falcon F2* remotely operated vehicle (ROV), run by SeaVision Marine Services, will collect underwater video imagery of seafloor habitats to depths of 1000m.

Figure 1. ROV underwater photograph of a diverse seafloor habitat- including gorgonians, hard coral, and sponges- south of St. John, USVI (2005).

In addition, CCMA has been conducting visual censuses since 2000 of fish, conch, and lobsters to characterize the populations of these resources within and outside the National Monument's and the Puerto Rican natural resource management areas. This existing biological data will be combined with abiotic data from the mission to produce maps of the seafloor topography, identify and map the seafloor habitats, and create spatially-explicit models of how fish species utilize habitats.

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http://ccma.nos.noaa.gov/ecosystems/coralreef/usvi_nps.htm

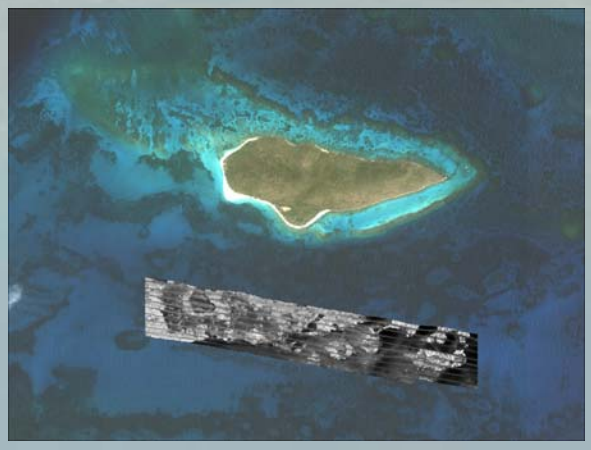

Figure 2. Multibeam backscatter mosaic showing substrate variation, generated by HMRG, overlain on IKONOS satellite imagery south of Buck Island, St. Croix.

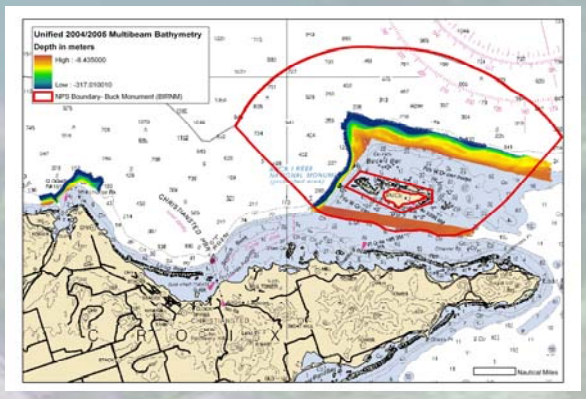

Figure 3. Project areas for the 2006 mapping effort within Buck Island Reef National Monument, St. Croix, (outlined in red) overlaid with multibeam bathymetry collected during the 2004 and 2005 missions.

The mission will also help NOAA meet its commitment to the U.S. Coral Reef Task Force to map coral reef ecosystems and provide new information to update nautical charts in the U.S. Caribbean. Additionally, the bathymetry collected will support NESDIS/NWS in their nationwide tsunami and storm surge modeling efforts.

To conduct the investigation, CCMA is collaborating with other NOAA program offices including NOAA's Office of Marine and Aviation Operations (OMAO), the Office of Coast Survey (OCS), and the Center for Operational Oceanographic Products and Services (COOPS). The U.S. Virgin Islands (Division of Fish and Wildlife and Coastal Zone Management) and Puerto Rican governments, the U.S. National Park Service (NPS), the Caribbean Fisheries Management Council, the University of Puerto Rico- Mayaguez (UPRM), the University of Hawaii Mapping Research Group (HMRG), and the University of New Hampshire Center for Coastal and Ocean Mapping/ NOAA Joint Hydrographic Center (CCOM/JHC), are also a part of the effort. This project is funded by NOAA's Coral Reef Conservation Program and the National Park Service.